In Reply We appreciate the thoughtful comments by Wolfson et al regarding our case-control study. Our study showed that patients with cancer were at increased risk for COVID-19 infection compared with patients without cancer. We avoided deriving strong conclusions regarding the direct associations among cancers, COVID-19 susceptibility, and severe outcomes owing to inherent limitations of using patient electronic health record (EHR) data, including unmeasured confounding factors, limited time-series information, limited information on socioeconomic and lifestyle determinants, and lack of finer-grained information of admitting diagnoses of hospitalization and contributing causes of death, among others.

We assumed that patients with recent encounters for their cancer diagnosis in general have more active cancer status than those with “remote” cancer. Our study showed that patients with “recent” cancer had higher risk for COVID-19 infection than those with remote cancer, suggesting that cancer itself may play direct role in COVID-19 infection risk. However, we could not rule out the possibility that high contacts with health care workers for patients with recent cancer might have contributed to their observed high risk. Owing to the limited sample size and limited time-series information, we did not analyze the contribution of individual predictors to COVID-19 risk for patients with cancer. We compared the risk for COVID-19 between African American patients with cancer and White patients with cancer because of their relatively large sample sizes in the EHR database. The “unknown” category was excluded because the information of race was unknown. Patients with missing race information were not included for the racial disparity analysis. The sum of the columns was not necessarily equal to the total because patients could report more than 1 race.

Our intent with this study was to survey a national database to provide clinicians with an early assessment of potential risk factors to be considered in designing strategies for management of patients with cancer during the COVID-19 pandemic and, most importantly, as suggested by Wolfson et al, to provide the community with baseline data for hypothesis generation for further investigation of the complex associations of COVID-19 in patients with cancer. We call for future studies to validate our findings in other EHR databases, patient registries, and other populations in the US or other countries.

We also thank Kumar et al for their comments on our study. We were definitely concerned about the possibility that COVID-19 could have been associated with increased venous thromboembolism in patients with both COVID-19 and cancer. In fact, in a companion article, we reported that among patients with recent hematologic cancers, essential thrombocythemia had one of the highest risks for COVID-19 infection. This association, plus recent studies demonstrating SARS-CoV-2 receptors on platelet membranes, led us to suggest that direct interaction of the virus with specific components of platelet structure and/or function warrants further investigation. We agree with the authors that future studies are needed to closely monitor the sequelae of thrombotic complications among COVID-19 survivors with cancer during and after the pandemic and to implement strategies and guidelines to mitigate thrombotic complications among COVID-19 survivors with cancer.

Rong Xu, PhD
Nathan A. Berger, MD
QuanQiu Wang, MS

Author Affiliations: Center for Artificial Intelligence in Drug Discovery, School of Medicine, Case Western Reserve University, Cleveland, Ohio (Xu, Wang); Case Comprehensive Cancer Center, School of Medicine, Case Western Reserve University, Cleveland, Ohio (Xu, Berger); Center for Science, Health, and Society, School of Medicine, Case Western Reserve University, Cleveland, Ohio (Berger).

Corresponding Authors: Nathan A. Berger, MD (nab@case.edu), and Rong Xu, PhD (rxx@case.edu), Center for Science, Health, and Society and Case Comprehensive Cancer Center, School of Medicine, Case Western Reserve University, 2103 Cornell Rd, Cleveland, OH 44106.

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